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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,783	06/13/2006	Koji Moriyama	291921US0PCT	5030
22850	7590	04/03/2009	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			HAUTH, GALEN H	
			ART UNIT	PAPER NUMBER
			1791	
			NOTIFICATION DATE	DELIVERY MODE
			04/03/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/582,783	<b>Applicant(s)</b> MORIYAMA ET AL.	
	<b>Examiner</b> GALEN HAUTH	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/16/2009 has been entered.

### ***Response to Amendment***

2. Acknowledgment is made to applicant's amendment of claim 1 and addition of claims 8-19.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 7, 13, and 19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Minami et al. (Pub No 2003/0069320).

a. With regards to claims 7, 13, and 19, Minami teaches a 1-butene based copolymer formed from an alpha olefin having 3 to 20 carbon atoms (§ 0038). The polymer is polymerized using a metallocene catalyst (§ 0202). Minami teaches a pellet of this polymer (§ 0472). The disclosed product of Minami et al. and the instantly claimed product appear to be essentially the same, comprised of the same components, and used in the same manner. In the event any differences can be shown for the product of the product-by-process claims 7, 13, and 19 as opposed to the product taught by Minami et al., such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results. See *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985). Also, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not

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the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

7. Claims 14-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (PN 4877840) in view of Minami et al. (Pub No 2003/0069320).

a. With regards to claim 14, Chu teaches a method for making a polyolefin particulate by blending molten polyolefin with a modifying agent, cooling the resin to a temperature below the melting temperature of the polyolefin while still mixing, and extruding the blend as pellets in crumble form (abstract). The polyolefin is melted in the first section of the extruder (col 4 ln 5-8). Chu teaches that the polyolefin is formed from an alpha olefin with 2-10 carbon atoms (col 2 ln 18-20.) Chu fails to teach the properties of the polyolefin or the polymerization techniques used to create the polyolefin.

b. Minami teaches a 1-butene (4 carbon atoms) based polymer having superior flexibility, low stickiness, and transparency formed with a melting point between 0-100 degrees Celsius with a stereo regularity index of at most 20 defined by  $\{(mmmm)/(mmrr+rmmr)\}$  (abstract). The 1-butene based copolymer taught by Minami is formed from an alpha olefin having 3 to 20 carbon atoms (¶ 0038). The polymer is polymerized using a metallocene catalyst (¶ 0202). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the polyolefin taught by Minami in the process taught by Chu to develop a granule with superior flexibility, low stickiness, and

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transparency (abstract) as well as superior mechanical strength, high heat resistance, and low price (§ 0006).

c. With regards to claim 14, the “consisting essentially of” language in the claims is noted. The term limits the claim to the specified ingredients and those that do not affect the basic and novel characteristics of a composition. *Ex parte Davis et al.*, 80 USPQ 448. When applicant contends that modifying or additional components in the reference composition are excluded by the recitation “consisting essentially of,” applicant has the burden of showing the basic and novel characteristics of the claimed composition, i.e. a showing that the introduction of these components would materially change the characteristics of applicant’s composition. *In re De Lajarte*, 143 USPQ 256. Therefore, in the absence of such a showing, the term “consisting essentially of” has been interpreted as “comprising.”

d. With regards to claim 15 with respect to claim 1 above, Chu teaches that the extruder varies in temperature from 200 degrees Celsius in the first zone at the beginning of the extruder to 65 degrees Celsius in the cooling zone at the end of the extruder (col 6 ln 17-18), but failed to positively teach a cooling rate of 5-300 °C/min. However, absent any showing of unexpected benefit, the cooling rate claimed by the applicant would have been obvious in the art as such is taken to be a **result effective variable**, and would have been routinely optimized by those versed in the art.

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- e. With regards to claim 16, Table 3 on page 33 shows Example 14 of the 1-butene based polymer has a melting point of 69.9 degree Celsius and a crystallization time of 8 minutes.
  - f. With regards to claim 18, Table 3 on page 33 shows Example 14 of the 1-butene based polymer has a stereo regularity index  $((mmmm)/(mmrr+rmmr))$  of 10.
  - g. With regards to claim 19, Chu teaches forming particulate from the flexible polyolefin through the process described above (col 5 example 1).
8. Claims 14, 15, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (PN 4877840) in view of Miller (PN 6469188).
- a. With regards to claim 14, Chu teaches a method for making a polyolefin particulate by blending molten polyolefin with a modifying agent, cooling the resin to a temperature below the melting temperature of the polyolefin while still mixing, and extruding the blend as pellets in crumble form (abstract). The polyolefin is melted in the first section of the extruder (col 4 ln 5-8). Chu teaches that the polyolefin is formed from an alpha olefin with 2-10 carbon atoms (col 2 ln 18-20.) Chu fails to teach the properties of the polyolefin or the polymerization techniques used to create the polyolefin.
  - b. Miller teaches a polyolefin system producing elastomeric polypropylene (abstract) which is useful for its utility and properties of recyclability, chemical resistivity, thermal stability, electrical conductivity, optical transparency, and processability (col 9 ln 47-51). The elastomeric polyolefin produced by Miller is

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attainable from alpha olefins with 3 to 10 carbons (col 2 ln 27-29, a alk-1-ene is a alpha olefin) with a metallocene (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the polyolefin of Miller in the polyolefin process of Chu for the reasons stated prior including increased processability.

c. With regards to claim 14, the “consisting essentially of” language in the claims is noted. The term limits the claim to the specified ingredients and those that do not affect the basic and novel characteristics of a composition. *Ex parte Davis et al.*, 80 USPQ 448. When applicant contends that modifying or additional components in the reference composition are excluded by the recitation “consisting essentially of,” applicant has the burden of showing the basic and novel characteristics of the claimed composition, i.e. a showing that the introduction of these components would materially change the characteristics of applicant’s composition. *In re De Lajarte*, 143 USPQ 256. Therefore, in the absence of such a showing, the term “consisting essentially of” has been interpreted as “comprising.”

d. With regards to claim 15 with respect to claim 1 above, Chu teaches that the extruder varies in temperature from 200 degrees Celsius in the first zone at the beginning of the extruder to 65 degrees Celsius in the cooling zone at the end of the extruder (col 6 ln 17-18), but failed to positively teach a cooling rate of 5-300 °C/min. However, absent any showing of unexpected benefit, the cooling rate claimed by the applicant would have been obvious in the art as such is taken



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to be a **result effective variable**, and would have been routinely optimized by those versed in the art.

e. With regards to claim 17, the elastomeric polypropylene produced by Miller in Example 48 col 43-44 displayed in Table 5 shows that entry 9 is a polypropylene with a (mm) of 76.7% by mole by adding the percentage of all groups containing the pattern mm.

f. With regards to claim 19, Chu teaches forming particulate from the flexible polyolefin through the process described above (col 5 example 1).

9. Claims 1, 2, and 4, 6-10, 12-17, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami et al. (Pub No 2003/0069320) in view of Enikolopow et al. (PN 4607797).

a. With regards to claims 1, 8, and 14, Minami teaches a 1-butene based copolymer formed from an alpha olefin having 3 to 20 carbon atoms (§ 0038). The polymer is polymerized using a metallocene catalyst (§ 0202). Minami teaches a pellet of this polymer (§ 0472). Minami does not teach melt kneading the resin composition while cooling to a temperature below the melting temperature.

b. Enikolopow teaches a method for pulverizing polymers (abstract) such as polyethylene (col 3 ln 28, a polyolefin) in which the polymer is melt kneaded and cooled to below a solidification temperature (col 3 ln 54-61, solidification temperature being a melting point). Enikolopow teaches that by pulverizing and melt kneading together, more energy is saved than post melt kneading

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pulverization in a separate machine (col 4 ln 1-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the melt kneading and pulverizing process of Enikolopow with the material of Minami to increase energy efficiency. Enikolopow does not teach a requirement for modifiers or additives in the process.

c. With regards to claims 2, 9, and 15 with respect to claim 1 above, Enikolopow teaches that the extruder varies in temperature from 150 degrees Celsius in the first zone at the beginning of the extruder to 20 degrees Celsius in the cooling zone at the end of the extruder (col 6 ln 17-18), but failed to positively teach a cooling rate of 5-300 °C/min. However, absent any showing of unexpected benefit, the cooling rate claimed by the applicant would have been obvious in the art as such is taken to be a **result effective variable**, and would have been routinely optimized by those versed in the art.

d. With regards to claims 4, 10, and 16, Table 3 on page 33 of Minami shows Example 14 of the 1-butene based polymer has a melting point of 69.9 degree Celsius and a crystallization time of 8 minutes.

e. With regards to claims 6, 12, and 18, Table 3 on page 33 of Minami shows Example 14 of the 1-butene based polymer has a stereo regularity index  $((\text{mmmm})/(\text{mmrr}+\text{rmmr}))$  of 10.

f. With regards to claims 7, 13, and 19, Enikolopow teaches forming particulate from the material (abstract).

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10. Claims 1, 2, 5, 7-9, 11, 13-15, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (PN 6469188) in view of Enikolopow et al. (PN 4607797).

a. With regards to claims 1, 8, and 14, Miller teaches a polyolefin system producing elastomeric polypropylene (abstract) which is useful for its utility and properties of recyclability, chemical resistivity, thermal stability, electrical conductivity, optical transparency, and processability (col 9 ln 47-51). The elastomeric polyolefin produced by Miller is attainable from alpha olefins with 3 to 10 carbons (col 2 ln 27-29, a alk-1-ene is a alpha olefin) with a metallocene (abstract). Miller does not teach melt kneading the resin composition while cooling to a temperature below the melting temperature.

b. Enikolopow teaches a method for pulverizing polymers (abstract) such as polyethylene (col 3 ln 28, a polyolefin) in which the polymer is melt kneaded and cooled to below a solidification temperature (col 3 ln 54-61, solidification temperature being a melting point). Enikolopow teaches that by pulverizing and melt kneading together, more energy is saved than post melt kneading pulverization in a separate machine (col 4 ln 1-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the melt kneading and pulverizing process of Enikolopow with the material of Miller to increase energy efficiency. Enikolopow does not teach a requirement for modifiers or additives in the process.

c. With regards to claims 2, 9, and 15 with respect to claim 1 above, Enikolopow teaches that the extruder varies in temperature from 150 degrees

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Celsius in the first zone at the beginning of the extruder to 20 degrees Celsius in the cooling zone at the end of the extruder (col 6 ln 17-18), but failed to positively teach a cooling rate of 5-300 °C/min. However, absent any showing of unexpected benefit, the cooling rate claimed by the applicant would have been obvious in the art as such is taken to be a **result effective variable**, and would have been routinely optimized by those versed in the art.

d. With regards to claims 5, 11, and 17, the elastomeric polypropylene produced by Miller in Example 48 col 43-44 displayed in Table 5 shows that entry 9 is a polypropylene with a (mm) of 76.7% by mole by adding the percentage of all groups containing the pattern mm.

e. With regards to claims 7, 13, and 19, Enikolopow teaches forming particulate from the material (abstract).

### ***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 as currently amended recites the

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limitation of "wherein the resin composition is free of modifying agents". Applicant has cited the specification at page 4, lines 14-18, page 23, lines 22 to 26, and in original claims 1, 2, and 4-7. The original disclosure teaches an absence of a releasing agent to the surface of the granules, but does not provide for a teaching of the absence of other modifying agents other than surface applied release agents.

### ***Response to Arguments***

13. Applicant's arguments filed 03/16/2009 with respect to claims 14-19 have been fully considered but they are not persuasive.

Applicant's argument that the references cited do not teach a resin composition "consisting essentially of" the claimed product is not persuasive. The specification recites the absence of surface modifying agents to the granules, but does not teach that an inclusion of a modifying agent as taught by Chu which is captured within the plastic matrix (col 4 ln 50-63) would materially affect the basic and novel characteristics of the claimed invention. See *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976) MPEP 2105. Therefor the transitional phrase "consisting essentially of" is read as "comprising" for the purposes of this examination.

### ***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 8:30am-5:00pm ET.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GHH/

/Christina Johnson/  
Supervisory Patent Examiner, Art Unit 1791